

**REMARKS**

This timely responds the Final Office Action mailed on August 9, 2004. Claims 14 and 21-26 are currently pending in the application, of which claims 14 and 26 are independent claims.

In view of the following Remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending rejections for the reasons discussed below.

***Rejections Under 35 U.S.C. § 103***

Claims 14 and 21-26 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U. S. Patent No. 5,852,481 issued to Hwang (“Hwang”) in view of U. S. Patent No. 5,162,933 issued to Kakuda, *et al.* (“Kakuda”) and further in view of Japanese Patent Publication No. 5-241173 to Watabe, et al. (“Watabe”). Applicants respectfully traverse this rejection for at least the following reasons.

In the Office Action, the Examiner stated “The reference Kakuda teaches a two-layer structure for the gate wire and data wire (MoCr<sub>x</sub> film formed on the aluminum film) that means the main layer is a metal layer (aluminum). The reference Yatabe teaches the property of the material as a metal nitride, such as solvent resist effect and air permeation resist effect. Therefore the metal nitride has an inert property to protect the wires under the metal nitride material” (Office Action, page 6).

On this basis, the Examiner stated “Therefore, the skilled in the art would benefit from the prior art design such two-layer structure for protecting the gate pad or the data wire” (Office Action, page 6)”. This assertion is respectfully disagreed with.

First, “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art suggests the desirability of combination” *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990). Also, as MPEP 2142 indicates, “The teaching or suggestion to make the claimed combination must ... must be found in the prior art, and not based on applicant’s disclosure” *In re Vaeck*, 20 USPQ2d 1438 (Fed. Cir. 1991).

In this regard, the Examiner did not point out which part of Kakuda or Yatabe suggests the desirability for replacing the MoCr<sub>x</sub> layer 11b or 13b of Kakuda with the metal nitride layer of Yatabe. The desirability found in Applicants’ disclosure is irrelevant. Since the suggestion for the asserted combination is not found in the prior art, it is submitted that a prima facie case for obviousness has not been established.

Second, “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purposes, then there is no suggestion or motivation to make the proposed modification” *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984).

Kakuda is directed to a gate/data wire structure, in which MoCr<sub>x</sub> layers 11b and 13b are formed on the aluminum layers 11a and 13a, in order to (a) eliminate a hillock effect, (b) improve contact between ITO and the wire and (c) reduce contact resistance between ITO and the wire (column 9, line 68 to column 10, lines 29).

If the MoCr<sub>x</sub> layers 11b and 13b are replaced with the metal nitride layer of Yatabe, the intended purposes described in column 9, line 68 to column 10, lines 29 of Kakuda would not be satisfied. Thus, it is submitted that there is no suggestion or motivation to make the combination asserted by the Examiner.

Third, “If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the

references are not sufficient to render the claims prima facie obvious” *In re Ratti*, 123 USPQ 349 (CCPA 1959).

The principle of operation in Kakuda is forming the MoCrx layers 11b and 13b on the aluminum layers 11a and 13b so that the gate/data wires do not suffer the hillock effect while improving contact properties with ITO and reducing contact resistance with ITO. If the MoCrx layers 11b and 13b are replaced with a metal nitride layer, such modification would change Kakuda’s operational principle. Thus, it is submitted that a prima facie case for obviousness has not been established.

For these reasons, it is submitted that claim 14 is patentable over the cited references. Claims 21-25 that are dependent from claim 14 would be also patentable at least for the same reasons.

Independent claim 26 recites “wherein at least one of the gate wire and the data wire comprises a main layer and a supplemental layer, and the main layer comprises metal or a metal alloy, and the supplementary layer comprises metal nitride or metal alloy nitride”.

As previously mentioned, no suggestion for combining Kakuda and Yatabe is found in the cited references, and, a prima facie case of obviousness has not been established. Thus, it is submitted that claim 26 is patentable over the cited references.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 14 and 21-26.


**CONCLUSION**

Applicants believe that a full and complete response has been made to the pending Office Action and respectfully submits that all of the stated grounds for rejection have been overcome or rendered moot. Accordingly, Applicants respectfully submit that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact the Applicants' undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

  
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